2020 VISION FOR FOOD, AGRICULTURE, AND THE ENVIRONMENT

Determinants of Microcredit Repayment in Federations of Indian Self-Help Groups

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FOCUS 18 • BRIEF 7 • JULY 2010

Since the establishment of the Grameen Bank in Bangladesh in 1976, microfinance has boomed. As of December 31, 2007, 3,552 microcredit institutions had reached 154 million clients worldwide, about 106.6 million of whom were among the poorest when they took their first loan. Such expansion can be at least partly attributed to the widely adopted practice of group lending in microfinance programs. In contrast to individual lending, group lending (or joint liability) grants a loan to a group of borrowers, and the whole group is liable for the debt of any individual member in the group. This practice allows microfinance programs to rely mainly on accountability and mutual trust among group members rather than financial collateral to insure against default. Given that the poor often lack appropriate financial collateral, group lending programs offer a feasible way of extending credit to poor people who are usually kept out of traditional banking systems.

There is considerable debate about whether such groups can be sustainable, achieving sound repayment performance while serving poor borrowers. The factors affecting repayment performance are thus of great policy relevance. This brief examines whether and how much repayment is affected by three factors: the source of the loan, groups' provision of public goods in the form of insurance substitutes, and the monitoring and repayment rules of the federations of groups. The data come from more than 2,000 self-help groups (SHGs), federated in 299 village organizations in the Indian state of Andhra Pradesh. The SHGs under study were supported by a large World Bank program called the Indira Kranti Patham (IKP) program, with a cost of US$260 million. The program has been replicated in other states in India and may be replicated in other countries. A better understanding of factors influencing repayment will therefore help improve the performance and advance of the program.

Background of the IKP program

Building on Andhra Pradesh's tradition of SHGs, the IKP program was launched in October 2000 to promote the formation of new groups and to strengthen existing ones. A typical program SHG consists of 10–20 women members who meet regularly to discuss social issues and engage in social activities. During these meetings each member deposits a small thrift payment into a joint bank account. Once enough savings have been accumulated, group members can apply for internal loans that draw on accumulated savings at an interest rate to be determined by the group. Once the group establishes a record of internal saving and repayment, it becomes eligible for loans through a commercial bank or IKP program funds.

An important component of the program is to support the federation of SHGs at the village and *mandal* (block/county) level through formation of village organizations and county organizations. The purpose of federation is to capitalize on economies of scale in capacity building, credit, and insurance and to ensure that public programs reach the poor. Although IKP program funds were initially made available to SHGs, they were shifted to village organizations and later to county organizations as soon as these were established.

The survey

Data for this study come from a survey of 299 village organizations conducted by the World Bank in 2006. This brief investigates 3,350 expired loans made to members of 2,147 SHGs. In the survey, all loans taken by each member SHG in the village organizations between June 2003 and June 2006 were recorded from account books of each organization. The study period started after the majority of village organizations were formed and coincided with a major drive for SHG formation. Of the 40 million rupees (about US$1 million) of aggregate loan principal, about 60 percent of the funds were provided by the IKP program, with the rest of the funds coming from banks, SHGs, and other sources. Only 63 percent of loans from the IKP program were fully repaid, compared with 87 percent repayment for bank loans and 89 percent repayment for internal loans.

The survey provides information on loan terms (size, source, length, interest rate, and repayment frequency), SHG characteristics (size, age, and membership composition), and village organizations' monitoring and repayment rules. These rules differ in four key dimensions:

- Delinquency management policies. These policies include fees to SHGs that miss an installment and loan recovery committees to monitor SHGs' creditworthiness (through a rating system, for example). Both would likely increase repayment probability.
- Monitoring of SHGs' financial affairs. Here, the study looks at three variables: whether the village organization (1) regularly inspects member SHGs' books at monthly meetings; (2) employs a trained bookkeeper; and (3) regularly audits members' books. Again, all of these steps should help reduce defaults.
- The extent to which the village organization provides public goods. The study considers whether in-kind rice credit and marketing services are provided. The in-kind rice credit is a program whereby the village organization acquires subsidized rice in bulk under the public distribution scheme and makes it available to SHG members as an in-kind credit, with any savings from the bulk purchase passed on to members in the form of lower prices. Marketing services are the collective activities that help SHG members gain access to markets—for example, buying and selling in bulk to obtain more favorable prices or to reduce transaction costs. Because such benefits can be cut off in case of default, they should enhance repayment incentives, especially when alternative sources for these benefits are unavailable.
- The extent to which SHGs are required to deposit regular thrift payments with the village organization. The village

organizations' collection of thrift from member SHGs provides cash collateral that can be withheld in case of default and thus should increase repayment incentives.

In the sample of 299 village organizations, 36 percent applied a sanction for SHGs that miss an installment, 41 percent had a loan-recovery committee, 35 percent provided in-kind consumption credit, 25 percent provided marketing services, 47 percent collected thrift from their member SHGs, 82 percent employed trained bookkeepers, 37 percent of the SHGs in the sample were regularly audited, and 23 percent presented their books at village organization meetings.

Factors influencing loan repayment

The model used to estimate the effects of various factors on repayment shows that monitoring and loan recovery arrangements are highly significant, both statistically and economically. Regular audits, checking of SHG books at village organization meetings, and depositing of SHG savings with the village organization are estimated to increase the probability of full repayment by 8.3, 9.5, and 20 percentage points, respectively. Although the village organization's involvement in marketing has no impact on repayment, in-kind consumption credit is predicted to increase the probability of full payment by 12.7 points, suggesting that non-economic benefits from credit groups increase repayment incentives. This finding also implies that village organizations are better positioned to help smooth consumption and address credit market imperfections than to intervene in output markets.

The results also suggest that SHGs are more likely to fully repay loans from banks—by 18.6 points according to the estimate—than loans from the IKP program. The program's lower repayment rate points to limits in village organizations' credibility, possibly because of their relatively recent establishment. High installment frequency has an almost equally large effect (15 points), consistent with the notion that frequent small installments enhance repayment performance for households with credit constraints. As have other studies, this study found that full repayment is less likely for loans with longer duration and, less significantly, higher interest.

Other studies have found mixed evidence on the impact of group characteristics, but the results of this study suggest that the probability of repayment increases with the size of the group up to about 14 members and decreases thereafter. In contrast, the probability of repayment decreases with the length of time the group has been in operation up to about five years. Although groups with a high percentage of poor individuals show lower rates of full repayment, the magnitude is small: a 10-point increase in very poor members would reduce full repayment by only 1.7 points. Here the trade-off between sustainability and service to the poorest is much smaller than suggested by some other studies. Neither caste composition nor homogeneity has a significant impact on repayment.

Summary and policy implications

In contrast to most existing literature that studies the effects of group and individual attributes on loan repayment in microcredit groups, this study investigates the effects of exogenous monitoring and loan recovery arrangements, together with loan and group characteristics. Because banks and others can provide microfinance institutions with additional resources contingent on adoption of certain minimum rules, the findings from this study could be of great practical relevance. The results highlight the following four policy implications:

1. Repayment rates are significantly lower on loans originating in externally provided grant resources managed by village organizations. This finding highlights the need for further inquiry on why this is the case and how to improve the repayment performance of loans from grant resources.
2. Among SHGs, external management policies (such as regular monitoring and audits and in-kind consumption credit) and loan terms (group savings deposits with the lender, frequency of repayment) appear far more important to full repayment than group characteristics such as the poverty level of members. This result suggests that, in this context, even groups composed of very poor borrowers can achieve high repayment rates if village organizations adopt proper rules and management practices. Furthermore, SHG federations and other external group supervisors should consider implementing the management policies that can encourage full repayment.
3. Third, the results suggest that the optimal size of a group is about 14 members. This finding can provide some guidance in group formation. ■

For further reading: C. Ahlin and R. M. Townsend, "Using Repayment Data to Test across Models of Joint Liability Lending," *Economic Journal* 117, no. 2 (2007): F11–51; R. Cull, A. Demirguc-Kunt, and J. Morduch, "Financial Performance and Outreach: A Global Analysis of Leading Microbanks," *Economic Journal* 117, no. 2 (2007): F107–33; M. Sharma and M. Zeller, "Repayment Performance in Group-Based Credit Programs in Bangladesh: An Empirical Analysis," *World Development* 25, no. 10 (1997): 1731–42.

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This brief is based on Klaus Deininger and Yanyan Liu, "Determinants of Repayment Performance in India Microcredit Groups," World Bank Policy Research Working Paper No. 4885 (Washington, DC: World Bank, 2009).

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